

SAFETY DATA SHEET

1. Identification

Product identifier	CIM 61TN Epoxy Hardener	
Other means of identification	None.	
Recommended use	Epoxy Primer for CIM Urethane Coatings	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	CIM INDUSTRIES INC	
Address	6900 NELMS STREET HOUSTON, TX 77061 United States	
Telephone	General Assistance	800 543-3458
E-mail	info@chasecorp.com	
Emergency phone number	Chemtrec (US - 24 hrs)	800 424-9300
	Chemtrec (INTL - 24 hrs)	703-527-3887
Supplier	Not available.	

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
	Physical hazards not otherwise classified	Category 1
Health hazards	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Not classified.	
Label elements		



Signal word

Danger

Hazard statement

Highly flammable liquid and vapor. Causes serious eye irritation. May cause genetic defects. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. May cause flash fire or explosion. Sparks may ignite liquid and vapor.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. These alone may be insufficient to remove static electricity.

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish. In case of leakage, eliminate all ignition sources.

Storage

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

None known.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Dimer Acids reacted with Polyamine		Proprietary	17
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM) (C8 TO C10)		64742-95-6	13
Methyl ethyl ketone (MEK)		78-93-3	7
Isobutanol		78-83-1	2
Other components below reportable levels			61

All concentrations are in percent by weight (kg) unless ingredient is a gas. Gas concentrations are in percent by volume (l).

Composition comments

Note: As supplied and during application the quartz is bound within the CIM matrix. The quartz is not in a respirable form and should not pose a hazard to the user.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Carbon dioxide (CO₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. ACGIH Threshold Limit Values**

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	152 mg/m3 50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	885 mg/m3
	TWA	300 ppm 590 mg/m3 200 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	100 ppm
	TWA	50 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Isobutanol (CAS 78-83-1)	TWA	152 mg/m3 50 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	STEL	300 mg/m3
	TWA	100 ppm 150 mg/m3 50 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isobutanol (CAS 78-83-1)	PEL	300 mg/m3 100 ppm
Methyl ethyl ketone (MEK) (CAS 78-93-3)	PEL	590 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Methyl ethyl ketone (MEK) (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Viscous Liquid.

Color Light brown.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -123.95 °F (-86.64 °C) estimated

Initial boiling point and boiling range 175.26 °F (79.59 °C) estimated

Flash point 24.8 °F (-4.0 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.8 % estimated

Flammability limit - upper (%) 10 % estimated

Explosive limit - lower (%) 0.5

Explosive limit - upper (%) 11.4

Vapor pressure 20.13 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Very Slightly Soluble

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 842 °F (> 450 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.80 g/cm ³ estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	25 % estimated
Specific gravity	1.5
VOC (Weight %)	240 g/l for the mixed epoxy (per EPA Method 24)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Powerful oxidizers. Ammonia. Amines. Isocyanates. Caustics. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
CIM 61TN Epoxy Hardener		
Acute		
Dermal		
LD50	Rabbit	68277 mg/kg estimated
Inhalation		
LD50	Guinea pig	995 mg/l estimated
	Rabbit	1313 mg/l estimated
	Rat	960 mg/l estimated
Oral		
LD50	Mouse	9075 mg/kg estimated
	Rat	32857 mg/kg estimated

Components	Species	Test Results
Isobutanol (CAS 78-83-1)		
Acute		
Dermal		
LD50	Rabbit	3392 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 Hours
LD50	Guinea pig	19.9 mg/l
	Rabbit	26.25 mg/l
	Rat	19.2 mg/l
Oral		
LD50	Mouse	3500 mg/kg
	Rat	2.46 g/kg
Methyl ethyl ketone (MEK) (CAS 78-93-3)		
Acute		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Inhalation		
LC50	Mouse	11000 ppm, 45 Minutes
	Rat	11700 ppm, 4 Hours
Oral		
LD50	Mouse	670 mg/kg
	Rat	2300 - 3500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Isobutanol (CAS 78-83-1) Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
CIM 61TN Epoxy Hardener		
Aquatic		
Crustacea	EC50	Daphnia
		27847.5332 mg/l, 48 hours estimated
Fish	LC50	Fish
		26736.1563 mg/l, 96 hours estimated

Components	Species		Test Results
Isobutanol (CAS 78-83-1)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia pulex</i>)	950 - 1200 mg/l, 48 hours
Fish	LC50	Bleak (<i>Alburnus alburnus</i>)	1000 - 3000 mg/l, 96 hours
Methyl ethyl ketone (MEK) (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (<i>Cyprinodon variegatus</i>)	> 400 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Isobutanol	0.76
Methyl ethyl ketone (MEK)	0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone (MEK), Isobutanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1139
UN proper shipping name	Coating Solution
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number UN1139
UN proper shipping name Coating Solution
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

IATA; IMDG; TDG**15. Regulatory information****Canadian regulations****Controlled Drugs and Substances Act**

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Methyl ethyl ketone (MEK) (CAS 78-93-3) Class B

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Issue date 05-10-2017
Revision date 05-10-2017
Version # 02

Disclaimer CIM INDUSTRIES INC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information offered in this data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however, no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. This material is intended for industrial use only. No warranty, expressed or implied is made.